





ART. XIII.—*On Renal Diphtheria.* By EWING WHITTLE, M.D., M.R.I.A.; Senior Honorary Surgeon to the Liverpool Dispensaries, and Lecturer on Medical Jurisprudence to the Liverpool Royal Infirmary School of Medicine.

I APPLY the term of renal diphtheria to that form of diphtheritic fever in which the characteristic exudation on the tonsils is either absent, or, if present, only observed in a very slight degree, and in which the most striking feature is derangement of the functions of the kidneys. It is well known that in the latter stages of diphtheria we frequently meet with a diseased condition of the kidneys, with a copious elimination of albumen in the urine, occasioning anasarca of the cellular tissue, and a condition generally very similar to that of dropsy after scarlatina.

In the case of which I now proceed to detail the particulars, the renal affection was a marked feature from the commencement, but presenting this remarkable peculiarity, that there was no albumen in the urine, the renal symptoms being rather those of diabetes insipidus.

Jan. 23, 1866.—Eliza S., aged eleven, had been feeling ill for a day or two, and having taken much worse towards night, I was sent for. I saw her about 10 p.m. She was then in a high fever, the skin very hot, face flushed, the pulse 140 and sharp; there was delirium and great excitement. There was no fulness about the neck, and nothing to be seen on the tonsils, neither could any eruption be detected on the skin. My first impression was that it would prove to be a case of scarlatina.

I ordered a dose of calomel and James's powder, a diaphoretic

mixture, a cold application to the temples, and a sinapism to the nape of the neck.

24th.—She was more calm, but scarcely knew any body; fever not quite so high; no eruption on the skin; nothing apparently wrong with the throat.

25th.—Much improved; now quite rational; pulse down to 112. She is very low and prostrate; the tonsils look a little reddish. On the day before I had begun to regard the case as one of masked diphtheria. I arrived at this conclusion, *par voie d'exclusion*. If scarlatina had set in with such violence the characteristic eruption would have appeared by this time, or the patient would have succumbed to the poison, which must have fully pervaded the system to have produced such severe symptoms in its access. No inflammatory affection of the brain or its membranes would have set in so rapidly and so soon declined in severity. These considerations led me to the conclusion which I expressed confidently to the parents, that the disease was essentially diphtheria, and this diagnosis was very soon strikingly confirmed.

This day I ordered her small doses of carbonate of ammonia and a little wine.

26th.—To-day she appeared quite convalescent. But two sisters, one aged thirteen, the other five, were taken ill. The elder, Mary Anne, seemed affected like her sister Eliza, but not nearly so ill; her throat was red, congested, and showed a few small diphtheritic patches. Emily's was a case of well-marked diphtheria; the throat very much affected internally, and the glands in the neck very much swollen and very tender. She was dangerously ill for about ten days, but in her case there was no renal complication.

27th.—On this day the parents were both ill with diphtheritic sore throats and a considerable degree of fever, which lasted for several days, but they were not confined to bed.

To return to Eliza. She kept very low and had no appetite, but was now quite free from fever. On examination the urine was found to be alkaline, sp. gr. 1008, but contained no albumen. Quinine, with hydrochloric acid, prescribed. She continued to improve for several days, though the urine was still alkaline.

Feb. 1st.—She got up; appearing to her parents much better, she was now allowed to make too free; the result was that in a few days she was taken very ill again.

Feb. 4th.—This day she was not able to get up; had no

appetite whatever; her skin was very hot and dry, and she complained of intense pain in the head. The urine had a more decided alkaline reaction; very low; sp. gr. 1002, but there was no albumen. It was now observed that she passed urine in large quantities, and she would scarcely drink anything but water. Dover's powder, with acid mixture, prescribed.

5th.—To-day she was better, and more free from fever, but throughout the remainder of the month there was little or no improvement. She would take hardly any food; she drank a great deal of water, and would take very little wine. She could be got to take very little medicine. She passed daily from five to seven pints of water, nearly colourless, varying in sp. gr. from 1002 to 1003; reaction always alkaline, never containing any albumen. She was subject almost every day to violent paroxysms of headache, which, after lasting several hours, became relieved spontaneously by a copious discharge of urine; as quinine seemed to afford no relief, it was discontinued, and small doses of muriated tincture of iron substituted for it. This always had a good effect when taken regularly; the headaches being much less severe, and the urine decreasing in quantity and improving in quality.

March 1st.—Urine now 1005, still alkaline; headaches less severe. From this day she took the tincture of iron more regularly, and as she did she steadily improved.

12th.—The urine has a sp. gr. of 1008, and is diminished to about two quarts in quantity.

18th.—It was now 1010 and neutral; her appetite was now returned, and the headaches nearly gone.

26th.—The urine reached the sp. gr. of 1013, and now, for the first time, had an acid reaction, and was reduced to about the natural quantity; there were now no headaches; the appetite was pretty good; she was able to be up, and was improving both in health and spirits; in fact, seemed to be well. However, I advised the medicine to be continued for about another week. This advice was not attended to. She now looked upon herself as well, and was even allowed to go out.

April 2nd.—She was now not so well again; the headache had returned; her appetite had fallen off, and the urine was again alkaline, increased in quantity; and on this day (and on this day only) contained a trace of albumen. She was ordered an aperient, confined to bed for two or three days, and the tr. ferri., with acid. hydrochl. dil. resumed. She gradually improved, the urine



varying from 1009 to 1011, but containing no albumen, and having an alkaline reaction.

12th—On this day the sp. grav. was 1013, and the reaction acid. The improvement continued steadily from this date; at the end of a week she was quite well, the urine natural in every respect.

Throughout the whole case there never was any trace of sugar in the urine.

The sister Mary Anne, was affected in the same way as Eliza (but not in the same degree) *quoad* the renal secretion. She took the tr. ferri. steadily, and was pretty well at the end of a fortnight from her first taking ill.

I think this case worthy of being recorded as a remarkable instance of diphtheria manifesting itself purely as a nervous fever; the lesion of innervation evidenced in the early stage by high delirium and excitement, and in the chronic stage by violent headaches of a nervous character; and these paroxysms being evidently connected with functional derangement of the kidneys seemingly due to nervous lesion, for the absence of albumen from the urine shows that at no time were the kidneys in a state of congestion; and in this case we may, I think, draw the conclusion, that the force of the poison, if the poison be really present in the blood, was expended on the nervous rather than on the circulatory system.









